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February 5, 2014  
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Paul Baker  
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FEB 19 2014

DIV. OF OIL, GAS & MINING

Dear Paul Baker:

Subject:

- \*Site Visit - Questions on the drainage and the location of a new haul road along the southeastern dumps of the Bingham Canyon Mine
- \*Site visit on the storm water breach location located along the dump crest above the Yosemite and Saint Rest drainages
- \*Site visit of the sediment/debris basins a Yosemite, Saints Rest and Castro drainage areas
- \*Date of visits: Tuesday, February 4, 2014  
Time: 10:00am – 1:45 pm  
Conditions: cloudy, fog and cold  
Participants: Boyd Dansie, Brian Vinton, Chris Kaiser

There was 12 inches or more of snow on the waste dumps during our visit. We drove along the dump crest at the far southeast part of the dump. This area has drainages that drain into the Butterfield Canyon area. For the dumps above this area, or the Cornerstone Expansion dumps, there did not appear to be any storm water collection systems. There were two breach locations along the dump crest that had been filled since the September 13, 2013 storm event. The two breach locations were areas where storm water ran over the dump crest cutting large grooves into the dump. These grooves or channels extended from the top of the dump crest to the base of the dump. The storm water and mine waste from the breach locations contribute to the filling of the sedimentation basins and cut-off walls in the Yosemite and Saint Rest drainages. Again, these breach locations along the crest of the dump have been filled with mine waste.

We traveled to the new haul road that is located along the southeastern dumps. The new haul road extends south over the old Burma highway to the Yosemite drainage area. This road is about 70 yards wide. The haul road is projected to make a u-turn at the Yosemite drainage area. The road would turn north along the base of the east dumps. At the time of our visit, any storm water



from this haulage road is deposited at the cut-off wall just below the sedimentation basins for the Yosemite drainage area. As the road construction progresses, the road is to turn to the north. The drainage from the haul road is then projected to be deposited in the Copper drainage area.

This east dump expansion may help to stabilize the east dumps. The mining company will no longer need to place the Cornerstone Expansion mine waste higher on the existing dumps. The expansion of the east side dumps may be a cost savings for the mining company. Note that the east dump expansion will not help or prevent the continual downstream migration of mine waste from coming down the Butterfield Canyon. The mine waste has unacceptable levels of lead and arsenic.

We visited the Yosemite and Saint Rest drainage areas. The sedimentation basins are located above the cut-off walls. The basins are directly below the dumps. The space available for sediment storage is limited. Observation shows that there are deep grooves in the dump face. The basins are located so close to the dump face that bed loads could very easily overload upper basins. Because of all the snow, it was hard to tell if the discharge of the basins were rocked.

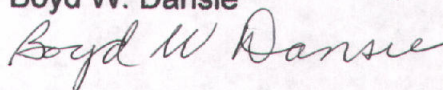
There were discussions about lowering the slopes of the dumps in the Castro, South Saints Rest, Saints Rest, and the Yosemite drainages. There was also talk about planting vegetation on the lower dump slopes. There were ideas as to where the new haul road would need to be located to lower the dump slopes in the Butterfield Canyon area.

The sedimentation basins appeared to have been cleaned along with the cut-off wall since the September 2013 storm event. The cleaning of the sediment basins and cut-off walls will help to control the mine waste.

#### Conclusion:

At this time, the cleaning of the existing sedimentation beds and cut-off walls will not stop the migration of mine waste from coming down the Butterfield Canyon during large storm events. It is apparent that there is a commitment and understanding of Kennecott personnel to solve the problem of migrating mine waste, but until Kennecott's management supports the lowering of the dump slopes and establishes vegetation on the new slopes, the problems will continue. Kennecott management needs to support their people with money, engineering support and dedicated equipment or the problem of migration of mine waste in Butterfield Canyon will continue. The farms, homes, and communities will continue to be put at risk from lead and arsenic.

Sincerely,  
Boyd W. Dansie



Cc: Leslie Heppler, Brian Vinton, Chris Kaiser, Douglas Bacon





Burns Road Activity

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## Crest Breaches

Tuesday, February 4, 2014 5:42 PM

From: "Vinton Brian (RTKC)" &lt;Brian.Vinton@riotinto.com&gt;

To: "dansiefamily@yahoo.com" &lt;dansiefamily@yahoo.com&gt;

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Boyd,

I was not sure if you have the attached map. There were five locations total that listed as possible breaches in berm at the crest during the Sept 13-14, 2013 storm. Three of these were Keystone and one for Yosemite and one for Saints Rest. One the field trip today while we were in Yosemite desilting basins, you and Chris were asking about the scarp on the north side of the Yosemite dump pointing out that it appeared that it had breached. From attached map your observations appear correct.

FYI.

Brian

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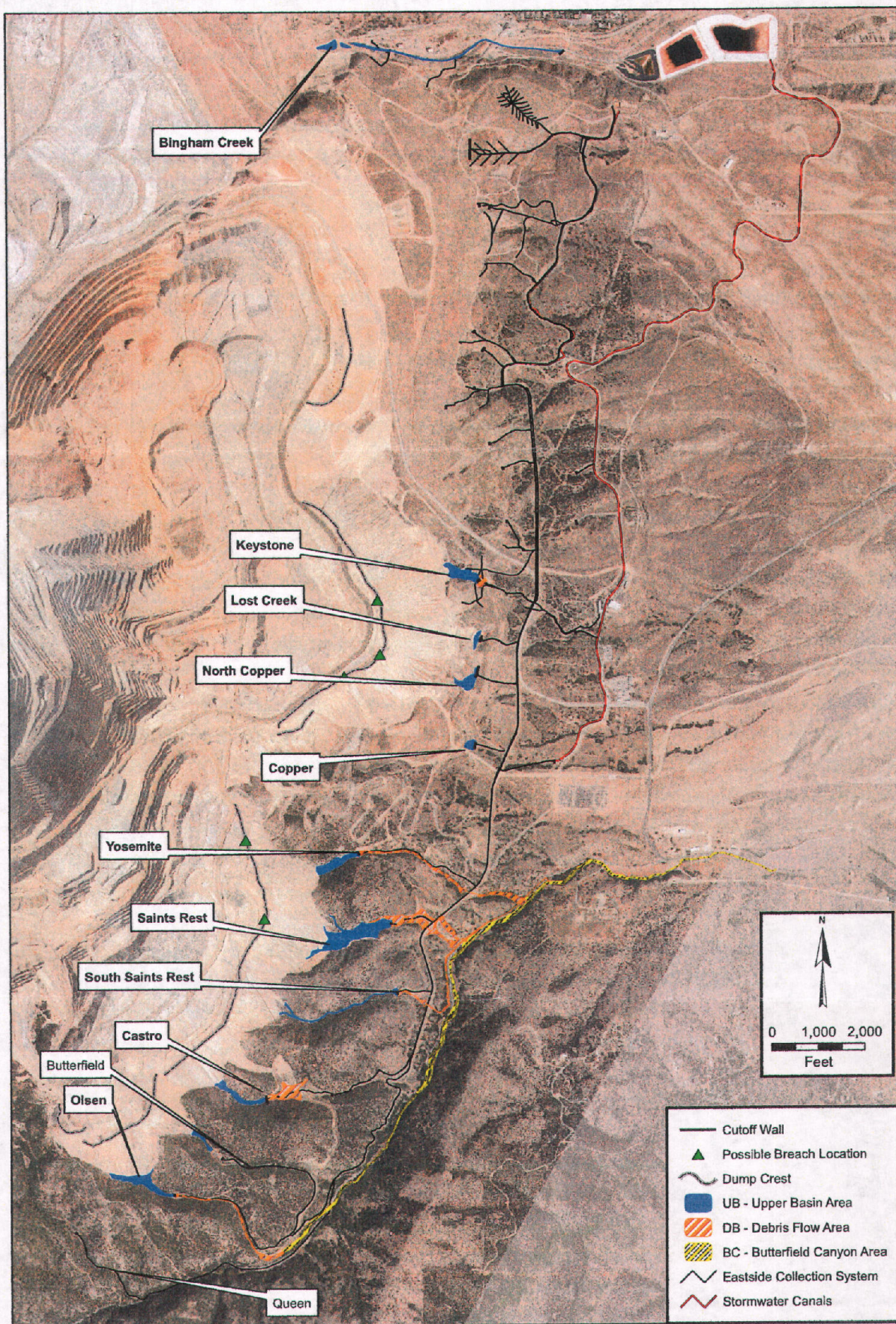
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Designed By: JI

Drawn by: JI

Project Eng:

Project Manager:

Rio Tinto

# **KENNECOTT UTAH COPPER ENVIRONMENTAL**

Dwg No.: FIG1\_WORK PLAN AREAS

Project: STORM EVENT 9/13/2013

**FIGURE 1  
LOCATION MAP  
OF WORK PLAN AREAS**